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The Manhattan weather in 1983 and 1984

Abstract

The charts of the daily weather drawn by the KSU computer indicate what occurred in the past two years. The three smooth curves in each diagram represent the average conditions at Manhattan based on 70 years of records from the files of the Agricultural Experiment Stations Weather Data Library. The top two curves show the average maximum and minimum temperatures occurring throughout the year. They reach a low point in mid-January and climb to a peak in mid-July. The bottom smooth curve indicates the average accumulative precipitation during the year. Starting at zero on January 1, it increase during the year and ends at the average annual rainfall. It climbs steeply during the mid-year when precipitation is greatest on the average, and less steeply at the beginning and end of the year.

Keywords

Cattlemen's Day, 1985; Kansas Agricultural Experiment Station contribution; no. 85-319-S; Report of progress (Kansas State University. Agricultural Experiment Station and Cooperative Extension Service); 470; Beef; Weather

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The Manhattan Weather in 1983 and 1984

L. Dean Bark¹

The charts of the daily weather drawn by the KSU computer indicate what occurred in the past two years. The three smooth curves in each diagram represent the average conditions at Manhattan based on 70 years of records from the files of the Agricultural Experiment Station's Weather Data Library. The top two curves show the average maximum and minimum temperatures occurring throughout the year. They reach a low point in mid-January and climb to a peak in mid-July. The bottom smooth curve indicates the average accumulative precipitation during the year. Starting at zero on January 1, it increases during the year and ends at the average annual rainfall. It climbs steeply during mid-year when precipitation is greatest on the average, and less steeply at the beginning and end of the year.

Actual daily values now can be compared with these average curves. They show which times of the year deviated the most from average conditions and allow a comparison of 1983 with 1984. On the precipitation curve, a horizontal section indicates a dry period and a vertical section means rain occurred that day.

The 1984 chart shows a very cold week in January with temperatures below zero. Such periods are hard on livestock operations—requiring extra energy and creating problems with shelter and shipping. February and March were quite mild, while April and May were cool and rainy. By the end of June, Manhattan had received almost its average total rainfall for the year. During the summer months, temperatures were not far from normal, except for a few hot days in July and August. There was little rain during these months. The showers that did occur were too small to be of much benefit. Although temperatures averaged about normal during the remainder of the year, the chart shows that this average resulted from alternating short cold and warm periods. Such rapid changes in temperature can produce stress in humans and livestock. Precipitation was heavier than usual in the fall of 1984. This benefited soil moisture reserves, but it was too late to save the corn and soybeans that dried up in the summer.

Compared to 1983, the temperatures were less extreme and precipitation was about 8 inches greater in 1984. Unfortunately, the timing of the extra precipitation interfered with both spring and fall plantings and did not occur during the peak growing season. Some plantings were delayed to the point that the crops did not mature before the first freeze. There were more heavy rains in 1984 than in 1983. These downpours produced flooding and erosion in northeast Kansas. Some severe storms also produced considerable hail damage.

¹Department of Physics.

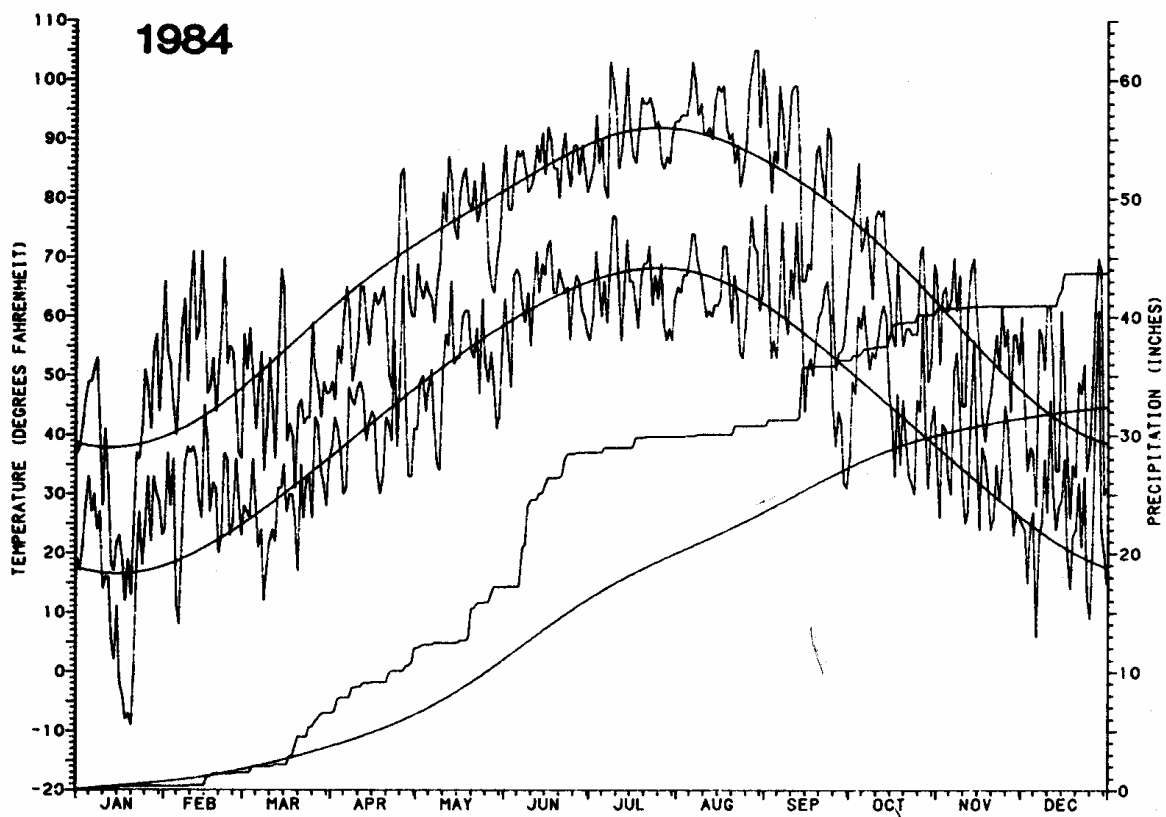
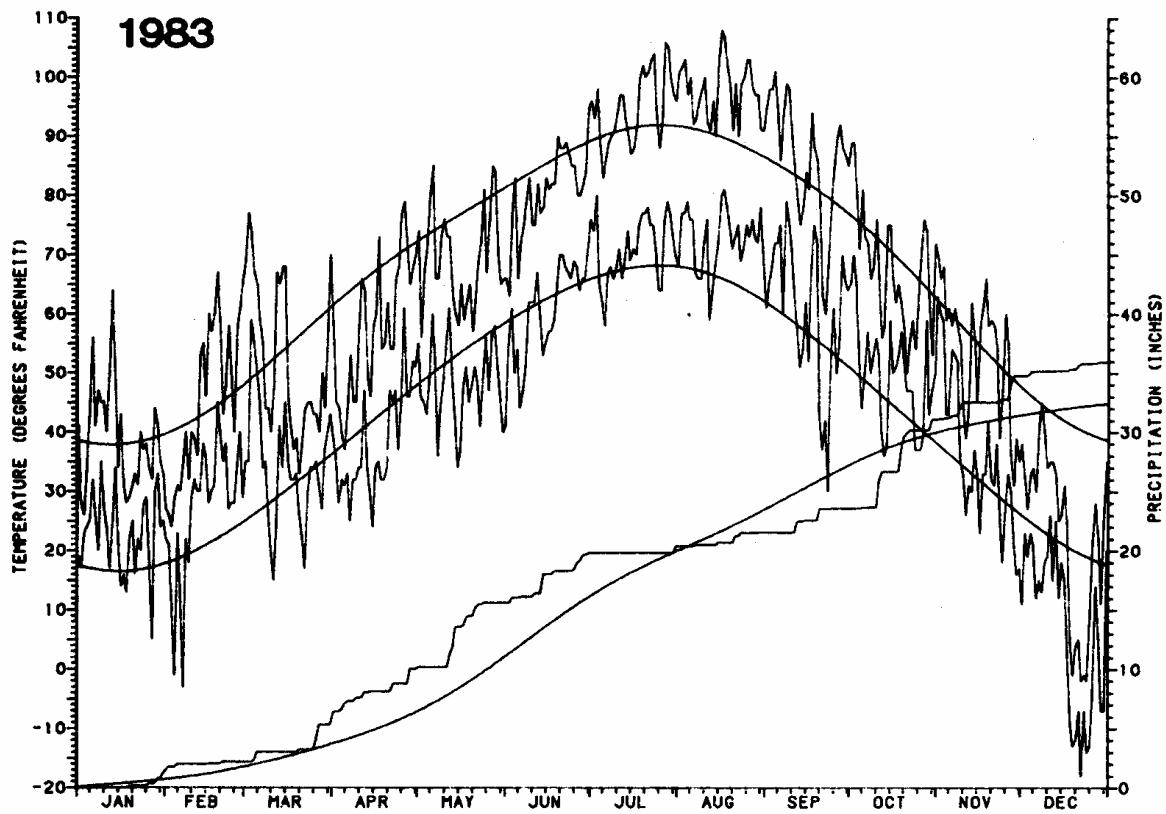


Figure 29.1. 1983 and 1984 graphical weather summary for Manhattan, Kansas. From the Kansas Agricultural Experiment Station Weather Data Library.